A Study on Employee Demographic Characteristics in Information Technology (IT) Companies Located in Hyderabad

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Abstract

This study aims to understand the demographic profiles of employees working for Information Technology located in Hyderabad. It is known that, while pitching for projects IT companies boast their employee profiles to garner highest billing rates. As multiple companies pitch for same project, from the client's end it is imperative to know differentiating factors among employee demographics. We randomly collected data from employees working for 10 IT companies located in Hyderabad city of Telangana state and analyzed demarcation under five demographic factors i.e. gender, age, education qualification, work experience, and annual income. Data were collected by administering 1500 questionnaires to sample respondents and analyzed using Pearson's Chi-Square test. Results of study indicate that there are differences among the companies. Findings of the study are very helpful to client companies to choose right vendor for development or deployment of their IT technology.

Keywords: *HR Policy, IT Companies, Employee Demographics, Workforce Profile*

I. INTRODUCTION

In Information Technology (IT) industry competition plays a significant role in the survival and success of organizations. Optimization of function and performance of staff have become a major thought. Despite vast usage of employee centric HR policies, studies show that organizations still encounter problems with resourceful and accurate functioning of employees. It is strongly believed that the optimal performance of organizations will be attained if employees perform beyond their defined work. The related literature review unanimously acknowledges that successful organizations share a fundamental philosophy of creating value and investing in their employees. Organizations make enormous efforts to attract handfuls of employees and sustain them in the organization. In today's business scenario only high salary and designation is not significant for employees to retain them in the organization, but others demographic factors also play an important role. In this context, in this research it is aimed to identify whether the demographic factors of employees working in IT companies are identical or not.

II. LITERATURE REVIEW

Swaminathan. J and A. Ananth (2009) found that demographic characteristics of the employees, experience and income significantly influence employee engagement. In particular age had relationship with employee contribution towards productivity. On the other hand work experience had negative relation with productivity. Education qualification of the employees was not related to employee's involvement in the organization.

Saif-Ud-Din Khan, Dr. Allah Nawaz & Dr. Farzand Ali Jan (2012) found that out of the seven demographic characteristics tested, only three had emerged as critical, and rest of the four factors played no role in predicting the values of dependent variable. Gender differences surface as the most obvious factor showing diversities between males and females. The study also found that marital status of the respondents had implication for the job satisfaction and relations with the organizational commitment.

SnežanaUrošević, and NenadMilijić (2012) examined the impact of education qualification, age, experience on employee motivation. Findings of this study showed that education qualification had influence on employee motivation and satisfaction. On the other hand age group of the employees had no influence on dependent variables.

Collins MarfoAgyeman&Ponniah (2014) sought to identify influence of various demographic characteristics of employees on their turnover and retention. They found that different demographic factors like gender, age, education qualification, income, and years of experience were strongly associated to employee retention.

In another study Valentin Konya et. al. (2016) conducted a study to know whether or not the demographic characteristics of employees influence their organizational commitment. They found that gender of the employees did not have any influence, while other characteristics did have influence, such as, work experience, education qualification, and age.

III. METHODOLOGY

The main objective of this study is to understand the differentiations in demographic profiles of employees working for IT companies. This is information is very crucial for client companies to bestow their IT contract to vendor IT companies. In IT industry it is the knowledge and skill of employees that actually differentiate one company from others. Billing rate paid to vendors also depends on profiles of their work force. This study hypotheses that the key demographic variables like, gender, age, educational qualification, work experience, and annual income of employees working in IT companies areidentical. In other words there will not be any differentiation among these variables in IT companies. On the other hand, alternative hypotheses are that, there will be difference among the IT companies related to employee characteristics, by highlighting those difference they gain contracts.

To test above mentioned hypotheses, researcher of this study chosen 10 leading IT companies in Hyderabad by using convenient sampling method. After identifying the sample companies, in each company 150 questionnaires were distributed to employees chosen randomly. In all 1,256 questionnaires were returned, in these there were 77 questionnaires with incomplete data and were removed from analysis. The usable responses were 1,179 with 79% response rate. All the data from the questionnaires were tabulated in SPSS v.22 software for analyses. Initially the researcher runs frequency distribution tables to know the demographic distribution of employees. This was followed by running cross tabulation to get meaning insights on variable wise distribution of respondents. Finally, hypotheses testing were done using Pearson's Chi-Square test.

IV. DATA ANALYSIS

In this study the researcher first run the descriptive statistics using frequency tabulation. Results are presented in below tables. From table 1 it is clearly evident that on an average 10 percent of total respondents belonged to each company. The highest number of participants were from IBM and the least number of employees were from TCS. Of the total 1,179 respondents 657 (56%) were male employees and 522 (44%) were female employees (Table 2). This study found that majority of the employees working in IT companies were young and aged below 35 years. Of the total participants nearly 73% (864) were under the age group of 20 – 25 years. Very small portion (27%) were in the age group 35 – 50 years (Table 3). In the study participants 30% hold Post Graduate as their education qualification, followed by Graduation (28%), and B.Tech (25%). This result indicated that IT companies are hiring highly qualified employees (Table 4). This study found that highest number of employees were having working experience between five and 10 years. Another category where there are more employees was 10 – 15 years of work experience. The study also found that there were only 11 percent of employees who were having work experience more than 20 years. The study observed that 84% of the IT employees were drawing salary below 12 lakhs and only 16 percent were drawing salary above 12 lakhs per annum. Near to 30 percent employees had salary between two lakhs and five lakhs (Table 6).

Table I: Showing Company Wise Distribution of Study Participants

Name of the Company	*Number of Employees*	*Percent*
Dell	113	9.6
CapGemini	121	10.3
Microsoft	122	10.3
IBM	123	10.4
Deloittee	118	10.0
TCS	112	9.5
Infosys	115	9.8
Cognizant	120	10.2
Wipro	115	9.8
I -gate	120	10.2
Total	1179	100.0

Table II: Showing gender wise distribution of study participants

Gender	*Frequency*	*Percent*
Male	657	55.7
Female	522	44.3
Total	1179	100.0

Table III: Showing age group wise classification of sample respondents

Age Group	*Frequency*	*Percent*
20 - 25 Years	236	20.0
25 - 30 Years	334	28.3
30 - 35 Years	294	24.9
35 - 40 Years	177	15.0
40 - 50 Years	138	11.7
Total	1179	100.0

Table IV: Education qualification of study participants

Education Qualification	*Frequency*	*Percent*
Graduation	334	28.3
B.Tech	292	24.8
Post Graduate	360	30.5
Diploma	193	16.4
Total	1179	100

Table V: Work experience of study participants

Years of Experience	*Frequency*	*Percent*
1 - 5 Years	280	23.7
5 - 10 Years	312	26.5
10 - 15 Years	296	25.1
15 -20 Years	165	14
Above 20 Years	126	10.7
Total	1179	100

Table VI: Annual income of the IT employees

Annual Income	*Frequency*	*Percent*
2 - 5 Lakhs	351	29.8
5 - 8 Lakhs	304	25.8
8 - 12 Lakhs	331	28.1
Above 12 Lakhs	193	16.4
Total	1179	100.0

V. HYPOTHESES TESTING RESULTS

This study had five hypotheses those were tested to know whether there were any similarities between demographic variables (gender, age, education, experience, and income) of employees working in IT companies. To test these hypotheses, on the collected data, the researcher applied Pearson's Chi-Square test. Results of the analyses were presented below.

A. Company Vs. Gender

First table presents hypothesis testing results of gender wise similarity. The cross order table shows similarity in the distribution of gender of employees among different companies. The chi-square test value for this hypothesis was 29.947 and significant p value was less than 0.05. Based on this result the study failed to accept the null hypothesis of not similar, and concluded that they were statistically significant alike

in gender wise distribution of employees in IT companies.

Table VII: **Cross tabulation and chi-square test results between company and gender**

Name of the Company		Gender		Total
		Male	Female	
Dell	Count	58	55	113
	Expected Count	63	50	113
CapGemini	Count	66	55	121
	Expected Count	67.4	53.6	121
Microsoft	Count	74	48	122
	Expected Count	68	54	122
IBM	Count	79	44	123
	Expected Count	68.5	54.5	123
Delloitte	Count	55	63	118
	Expected Count	65.8	52.2	118
TCS	Count	60	52	112
	Expected Count	62.4	49.6	112
Infosys	Count	55	60	115
	Expected Count	64.1	50.9	115
Cognizant	Count	55	65	120
	Expected Count	66.9	53.1	120
Wipro	Count	70	45	115
	Expected Count	64.1	50.9	115
Igate	Count	85	35	120
	Expected Count	66.9	53.1	120
	Count	657	522	1179
	Expected Count	657	522	1179

CHI-SQUARE TESTS

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	29.947[a]	9	.000
Likelihood Ratio	30.398	9	.000
Linear-by-Linear Association	1.490	1	.222
N of Valid Cases	1179		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 49.59.

B. Company Vs Age Group

The second hypothesis this study was to examine whether the age group of employees working in IT companies are comparable. This hypothesis was tested with the help of Pearson's Chi-Square test. Test result that include cross tabulation of data and chi-square test were presented in below table. The cross tabulation shows no differences in the age groups. The chi-square test result confirms this similarity with a chi-square value of 107.532 at 0.00 level significance. As the chi-square value is high and p-value is less than tested value of 0.05 this study rejects the null hypothesis of no similarity in age groups and accepts that there was resemblance in the age groups of employees working in sample companies.

Table VIII: Cross tabulation and chi-square test results between company and Age Group

Company		Age Group					Total
		20 - 25 Years	25 - 30 Years	30 - 35 Years	35 - 40 Years	40 - 50 Years	
Dell	Count	19	47	12	11	24	113
	Expected Count	22.6	32	28.2	17	13.2	113
CapGemini	Count	36	21	31	18	15	121
	Expected Count	24.2	34.3	30.2	18.2	14.2	121
Microsoft	Count	33	31	28	15	15	122
	Expected Count	24.4	34.6	30.4	18.3	14.3	122
IBM	Count	15	27	46	14	21	123
	Expected Count	24.6	34.8	30.7	18.5	14.4	123
Delloitte	Count	22	37	32	18	9	118
	Expected Count	23.6	33.4	29.4	17.7	13.8	118
TCS	Count	16	31	29	27	9	112
	Expected Count	22.4	31.7	27.9	16.8	13.1	112
Infosys	Count	11	38	41	16	9	115
	Expected Count	23	32.6	28.7	17.3	13.5	115
Cognizant	Count	20	44	27	23	6	120
	Expected Count	24	34	29.9	18	14	120
Wipro	Count	31	24	25	20	15	115
	Expected Count	23	32.6	28.7	17.3	13.5	115
Igate	Count	33	34	23	15	15	120
	Expected Count	24	34	29.9	18	14	120
	Count	236	334	294	177	138	1179
	Expected Count	236	334	294	177	138	1179

Chi-Square Tests

	Value	**df**	**Asymptotic Significance (2-sided)**
Pearson Chi-Square	107.532[a]	36	.000

Likelihood Ratio	108.513	36	.000
Linear-by-Linear Association	.893	1	.345
N of Valid Cases	1179		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 13.11.

C. Company Vs Education Qualification

Another hypothesis tested in this study was to know similarity of education qualification among employees working in different IT companies. It was observed that majority of employees possess post graduation as their qualification, followed by graduation and B.Tech. However, there were differences in the count of employees in each company. This is clearly visible from below table. To test whether these differences were statistically significant the researcher runs Pearson's Chi-Square test. The test resulted presented in last section of below table indicated that there were no cells with count less than 5 and reported a higher chi-square of 115.265 at 0.00 significance level. As the calculated p-value was lower than test p-value (0.05) the study rejects the null hypothesis and accepts alternative hypothesis. This study found that there were no statistically significant differences in the educational qualification of employees working in different companies.

Table IX: Cross tabulation and chi-square test results between company and education qualification

Company Name		Education Qualification				Total
		Graduation	B.Tech	Post Graduate	Diploma	
Dell	Count	37	26	28	22	113
	Expected Count	32	28	34.5	18.5	113
CapGemini	Count	27	15	51	28	121
	Expected Count	34.3	30	36.9	19.8	121
Microsoft	Count	32	36	45	9	122
	Expected Count	34.6	30.2	37.3	20	122
IBM	Count	39	41	27	16	123
	Expected Count	34.8	30.5	37.6	20.1	123
Delloitte	Count	30	45	28	15	118
	Expected Count	33.4	29.2	36	19.3	118
TCS	Count	30	25	37	20	112
	Expected Count	31.7	27.7	34.2	18.3	112
Infosys	Count	50	20	25	20	115
	Expected Count	32.6	28.5	35.1	18.8	115
Cognizant	Count	29	43	33	15	120
	Expected Count	34	29.7	36.6	19.6	120
Wipro	Count	28	20	29	38	115
	Expected Count	32.6	28.5	35.1	18.8	115
Igate	Count	32	21	57	10	120
	Expected Count	34	29.7	36.6	19.6	120
	Count	334	292	360	193	1179
	Expected Count	334	292	360	193	1179

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	115.265[a]	27	.000
Likelihood Ratio	110.895	27	.000
Linear-by-Linear Association	.205	1	.650
N of Valid Cases	1179		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 18.33.

D. Company Vs Work Experience

IT companies promote that they had highly experienced employees when compared with competitor companies. To test this assumption the researcher of this study runs chi-square test on data collected from 10 different IT companies. Results are presented in below table. First part of the table provides cross tabulation between companies and work experience. Second part of the table depicts hypothesis testing results. Below table envisage that there were difference in the work experience levels of employees, however, to confirm this generic observation, the researcher examined the chi-square value. The chi-square value was 83.270 with 36 degrees of freedom and statistically significant at 0.00 level. Hence, the study rejects null hypothesis and accepts alternative hypothesis and report that there were no differences in the work experience levels of employees working in different companies.

Table X: Cross tabulation and chi-square test results between company and work experience

Company Name		Work Experience					Total
		1 - 5 Years	5 - 10 Years	10 - 15 Years	15 -20 Years	Above 20 Years	
Dell	Count	21	45	15	11	21	113
	Expected Count	26.8	29.9	28.4	15.8	12.1	113
CapGemini	Count	39	24	31	15	12	121
	Expected Count	28.7	32	30.4	16.9	12.9	121
Microsoft	Count	34	32	29	15	12	122
	Expected Count	29	32.3	30.6	17.1	13	122
IBM	Count	23	22	46	14	18	123
	Expected Count	29.2	32.5	30.9	17.2	13.1	123
Delloitte	Count	27	32	32	18	9	118
	Expected Count	28	31.2	29.6	16.5	12.6	118
TCS	Count	22	25	32	24	9	112
	Expected Count	26.6	29.6	28.1	15.7	12	112
Infosys	Count	18	33	42	13	9	115
	Expected Count	27.3	30.4	28.9	16.1	12.3	115
Cognizant	Count	27	40	27	20	6	120

	Expected Count	28.5	31.8	30.1	16.8	12.8	120
Wipro	Count	34	24	22	20	15	115
	Expected Count	27.3	30.4	28.9	16.1	12.3	115
Igate	Count	35	35	20	15	15	120
	Expected Count	28.5	31.8	30.1	16.8	12.8	120
	Count	280	312	296	165	126	1179
	Expected Count	280	312	296	165	126	1179

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	83.270[a]	36	.000
Likelihood Ratio	82.385	36	.000
Linear-by-Linear Association	.293	1	.589
N of Valid Cases	1179		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 11.97.

E. Company Vs Annual Income

Final hypothesis of this study was to examine the differences in income levels of employees working for IT companies. Each and every IT company highlights that they pay the best salary for their employees. In such a situation salaries paid to employees working in all the IT companies should be more or less similar. This study tested the above hypothesis and found that, there were no statistically significant differences in the salaries paid by IT companies to its employees. Hypothesis test rejects equal pay to all the employees for IT companies. Details of the test result are presented in below table.

Table XI: Cross tabulation and chi-square test results between company and annual income

Company		Annual Income				Total
		2 - 5 Lakhs	5 - 8 Lakhs	8 - 12 Lakhs	Above 12 Lakhs	
Dell	Count	40	24	27	22	113
	Expected Count	33.6	29.1	31.7	18.5	113
CapGemini	Count	30	13	50	28	121
	Expected Count	36	31.2	34	19.8	121
Microsoft	Count	40	37	36	9	122
	Expected Count	36.3	31.5	34.3	20	122
IBM	Count	33	45	29	16	123
	Expected Count	36.6	31.7	34.5	20.1	123
Delloitte	Count	42	32	29	15	118
	Expected Count	35.1	30.4	33.1	19.3	118
TCS	Count	28	33	31	20	112

	Expected Count	33.3	28.9	31.4	18.3	112
Infosys	Count	44	30	21	20	115
	Expected Count	34.2	29.7	32.3	18.8	115
Cognizant	Count	37	40	28	15	120
	Expected Count	35.7	30.9	33.7	19.6	120
Wipro	Count	28	25	24	38	115
	Expected Count	34.2	29.7	32.3	18.8	115
Igate	Count	29	25	56	10	120
	Expected Count	35.7	30.9	33.7	19.6	120
	Count	351	304	331	193	1179
	Expected Count	351	304	331	193	1179

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	102.681[a]	27	.000
Likelihood Ratio	100.244	27	.000
Linear-by-Linear Association	.508	1	.476
N of Valid Cases	1179		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 18.33.

VI. CONCLUSIONS

This study intended to examine demographic profiles of employees working in IT companies. For this purpose data were collected from 1,179 employees working for 10 leading IT companies located in Hyderabad. Importantly, the study concentrated on five key demographic factors (gender, age, education, experience, and income). It was hypothesized that there won't be any significant difference among these factors in IT companies. To test hypotheses the researcher runs Pearson's Chi-Square test. Findings of the study revealed that there were statistically significant similarity among the demographic characteristics of employees in IT companies. Findings of this study had great practical implication. The client companies should thoroughly examine the demographic profiles of vendor IT companies, because the hallo effect will not work. Moreover, there was no blanket treatment for all the IT companies. In the IT industry the workforce and their demographic profiles plays an important role. Because of which, IT companies provide the best HR policies to their employees. This study found that the HR policies of sample companies differ from each other. This finding would be a great help to client companies who are willing to outsource their software development to IT companies based on workforce characteristics.

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